

REMARKS

Claims 1-66 were in the application. Claims 1-38 and 40-66 were rejected primarily in view of Xu, either alone or combined with a number of other references. Claim 39 was objected to but indicated as allowable over the art of record.

While Applicant respectfully traverses the rejections in view of Xu (whether alone or in combination with other references), Applicant has chosen to clarify the claims to emphasize certain fundamental distinctions over the Xu reference. As all rejections were premised on an analysis of the Xu reference, Applicant submits that, for at least the reasons set forth below, Xu is readily distinguishable from the invention defined by the presently pending claims, and all claims should be allowable.

The invention defined by the presently pending claims, as amplified by the amendments to the independent claims herein, is directed to a method for communicating data between an external computing system and an internal computing system over a packet-based network, wherein data is transmitted and received in the form of a plurality of packets. Thus, the unit of data transmission in essence is the packet. In accordance with the claimed invention, packets having at least a first portion and an end portion are received and transmitted, while in parallel with such steps characteristics of a packet are determined from the first portion, a plurality of checks are performed on the packet, wherein at least certain of the plurality of checks are performed in parallel with other of the plurality of checks, and it is determined if the packet should be a valid packet or an invalid packet based on the plurality of checks. In accordance with the presently claimed invention, after receiving the end portion of the packet, the end portion of the packet is selectively altered based on whether the packet has been determined to be a valid packet or an invalid packet, wherein the packet is selectively altered to be invalid if it was determined that the packet should be an invalid packet. Thus, as a packet is received and transmitted, it in parallel is analyzed to determine whether it should be selectively altered so as to be invalidated.

Xu, respectfully, teaches directly away from the presently claimed invention. Xu is directed to an ATM firewall design. As Xu explains, and as is well known in the art, the unit of data transmission in an ATM network is the ATM cell. The ATM cell of Xu,

to the extent that a proper correspondence may be drawn, corresponds to a packet in the present claims. As such, it is clear that the invention claimed herein is neither disclosed in nor suggested by Xu.

The filtering techniques of Xu in general require one or a plurality of ATM cells/packets to be received and processed in order for filtering-type decisions to be made. Indeed, Applicant has reviewed Xu and finds only disclosure addressing the need to receive one or more entire ATM cells/packets before the decision is made whether to invalidate the transmission. This must be the case because Xu contemplates filtering IP packets, and in general IP packets typically will have a size that greatly exceeds the fixed size of an ATM cell/packet. See, for example, the discussion in Xu at pages 275-277 regarding "packet filtering service." Xu states that a recent survey showed that the average packet size in a WAN is around 348, which will occupy 8 ATM cells/packets if AAL5 is used. Including the possibility of interleaving, the arrival time between the first ATM cell/packet and the last ATM cell/packet will be 22 ATM cell times. Thus, it is clear that Xu is addressing a filtering scheme that is directly opposed to what is addressed in the present claims.

As independent claims 1 and 31 make clear, in accordance with the presently claimed invention the unit of data transmission is the packet, and during the process of receiving and transmitting a packet, the packet is analyzed and a determination is made as to whether an end portion of the packet should be selectively modified in order to invalidate the packet. Thus, unlike Xu which necessarily contemplates receiving one or a plurality of entire ATM cells/packets in order to make filtering decisions, in accordance with the presently claimed invention the process of receiving and transmitting the packet is commenced, while in parallel the filtering decisions are made so that a decision may be made prior to transmission of the end portion of the packet. The system of Xu does not operate in this manner, and in fact Xu teaches away from operation in this manner.

Accordingly, Applicant submits that Xu is readily distinguishable from the claimed invention, whether considered alone or in combination with the other references. Reconsideration and allowance is requested.

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No new matter has been added.

Respectfully submitted,



Alan R. Loudermilk
Registration No. 32,788
Attorney for Applicant(s)

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Loudermilk & Associates
P.O. Box 3607
Los Altos, CA 94024-0607
408-868-1516